DEFENSE AUTHORIZATION/Hydronuclear Testing

SUBJECT: **National Defense Authorization Act for fiscal year 1996 . . . S. 1026. Thurmond motion to table the Exon amendment No. 2112 to the Thurmond amendment No. 2111.**

ACTION: MOTION TO TABLE AGREED TO, 56-44

SYNOPSIS: As reported, S. 1026, the National Defense Authorization Act for fiscal year 1996, will authorize $264.7 billion in total budget authority for the Department of Defense, national security programs of the Department of Energy, civil defense, and military construction accounts. This amount is $7 billion more than requested ($5.3 billion more for procurement and $1.7 billion more for research and development), and is $2.6 billion less than the amount approved in the House-passed bill.

The Thurmond amendment would offer substitute provisions for Title XXXI, which will authorize funds for Department of Energy national security programs. Changes include the following: the tritium production and plutonium disposition provisions would not favor a multipurpose reactor approach; any new tritium production facility would be at Savannah River, South Carolina; $10 million would be made available for university research on plutonium; funding for nuclear stockpile stewardship would be increased by $239 million (for industrial partnerships); funding for stockpile management would be cut by $215 million; the Nuclear Posture Review would be used to determine the size of the nuclear weapons stockpile; funding would be increased for verification and control technology by $78 million to the requested level; funding would be increased for technology development for carrying out environmental restoration and waste management activities; the exemption for the Department of Energy's defense facilities from the National Environmental Policy Act would be removed; and the section would be removed that will prohibit international inspections of defense nuclear facilities until the Secretary of Energy certifies that no restricted data or classified information will be revealed.

The Exon amendment would strike section 3135 of the Thurmond amendment, which would make $50 million available "for preparation for the commencement of a program of hydronuclear experiments at the nuclear weapons design laboratories at the Nevada Test Site which program shall be for the purpose of maintaining confidence in the reliability and safety of the enduring nuclear weapons stockpile." Any individual tests conducted pursuant to section 3135 would have to be approved by the President.

(See other side)

YEAS (56)

Republicans (49 or 91%)		Democrats (7 or 15%)
Abraham	Hutchison	Breaux
Ashcroft	Inhofe	Bryan
Bennett	Kempthorne	Heflin
Bond	Kyl	Hollings
Brown	Lott	Johnston
Burns	Lugar	Mikulski
Coats	Mack	Reid
Cochran	McCain	
Cohen	McConnell	
Coverdell	Murkowski	
Craig	Nickles	
D'Amato	Packwood	
DeWine	Pressler	
Dole	Roth	
Domenici	Santorum	
Faircloth	Shelby	
Frist	Simpson	
Gorton	Smith	
Gramm	Snowe	
Grams	Specter	
Grassley	Stevens	
Gregg	Thomas	
Hatch	Thompson	
Helms	Thurmond	
	Warner	

NAYS (44)

Republicans (5 or 9%)	Democrats (39 or 85%)	
Campbell	Akaka	Inouye
Chafee	Baucus	Kennedy
Hatfield	Biden	Kerrey
Jeffords	Bingaman	Kerry
Kassebaum	Boxer	Kohl
	Bradley	Lautenberg
	Bumpers	Leahy
	Byrd	Levin
	Conrad	Lieberman
	Daschle	Moseley-Braun
	Dodd	Moynihan
	Dorgan	Murray
	Exon	Nunn
	Feingold	Pell
	Feinstein	Pryor
	Ford	Robb
	Glenn	Rockefeller
	Graham	Sarbanes
	Harkin	Simon
		Wellstone

NOT VOTING (0)

Republicans (0)	Democrats (0)

EXPLANATION OF ABSENCE:
1—Official Buisiness
2—Necessarily Absent
3—Illness
4—Other

SYMBOLS:
AY—Announced Yea
AN—Announced Nay
PY—Paired Yea
PN—Paired Nay

Debate was limited by unanimous consent. Following debate, Senator Thurmond moved to table the Exon amendment. Generally, those favoring the motion to table opposed the amendment; those opposing the motion to table favored the amendment.

Those favoring the motion to table contended:

A hydronuclear test is one in which the conventional high explosive yield is greater than the nuclear yield. Nuclear materials are configured with high explosives in a geometry very similar to a nuclear explosion. The amount of the material and/or the geometry are chosen so that no nuclear chain reaction will occur. By historic convention, in the United States the yield of an experiment is less than 4 pounds of TNT equivalent. We believe that the United States should conduct hydronuclear tests to improve and maintain the reliability and safety of the United States' nuclear stockpile. Our colleagues are fearful of allowing such tests because they believe they will hurt nuclear nonproliferation efforts.

Hydronuclear tests have never been defined in international arms agreements. In the nuclear nonproliferation treaty, yields below 1 pound of TNT are not even allowed for nonnuclear countries. The reason is that such tests for a nonnuclear state could give it enough information to extrapolate reasonably on how to build a true nuclear weapon with a nuclear chain reaction. As a practical matter, this low limit is unenforceable. A 1-pound or 4-pound explosion with a minor portion of that explosive force coming from fissile materials is not detectable. Large-scale nuclear testing can be monitored seismographically and by satellite, but smaller testing cannot be. These tests are so small that they can be conducted in laboratories.

For states that already have nuclear weapons, though, the benefit of hydronuclear tests is not to develop nuclear capabilities. Instead, it is to improve the safety and reliability of existing weapons. Our colleagues have suggested that with extensive computer modeling hydronuclear tests could be used to develop newer, deadlier warheads, but perhaps with extensive modeling conventional experiments could also be used for that purpose. We should really rely on expert testimony as to the value of these tests. The nuclear testing laboratories tell us that hydronuclear tests would improve the safety and reliability of our nuclear arsenal, and the JASON group, which is a coalition of industry and academia nuclear experts, concurs.

Our colleagues do not deny that the JASON group says that these tests would have value, but they do claim, based on a dated JASON report, that it opposes testing due to proliferation concerns. Our colleagues' citation of this old JASON report does not advance their argument for two reasons. First, it is contradicted by the latest JASON report. We ask them to turn their attention to the following passage in the most recent report, issued July 25, 1995, just two weeks ago: "Underground testing of nuclear weapons at any yield level below that required to initiate boosting is of limited value to the United States. However, experiments involving high explosive and fissionable materials that do not reach criticality are useful in our understanding of the behavior of weapon materials under relevant physical conditions. They should be included among treaty consistent activities." Thus, the JASON experts appear to have changed their minds on their proliferation concerns. The second reason our colleagues should not base their argument on these experts' opinion on the proliferation dangers posed by hydronuclear testing is that that opinion is a diplomatic judgment, not a scientific judgment. These scientists have consistently told us that hydronuclear tests have scientific value. We accept their expert judgment on that point. But, with all due respect, when they make diplomatic judgments either for or against such testing, their opinions are not as informed.

The nuclear nonproliferation treaty has recently been renegotiated and made permanent. Many nonnuclear countries were reluctant to agree without assurances that nuclear countries did not continue to expand upon their arsenals. Therefore, they are very anxious to see nuclear countries agree to a comprehensive test ban treaty. The United States has as its goal to finalize such a treaty in 1996. The United States has observed a nuclear testing moratorium for the past three years as it has negotiated with other nuclear powers on the terms of a permanent moratorium. Though negotiating positions are classified, the press has reported that the United States favors a test ban that allows hydronuclear tests with less than 4 pounds of nuclear yield, Great Britain favors a 100-pound limit, Russia wants a 10-ton limit, and France wants up to a 200-ton limit. Both Russia and China have engaged in nuclear testing since the United States imposed a nuclear testing moratorium on itself. Thus, United States' tests of less than 4 pounds will almost certainly be treaty compliant with any test ban treaty that is negotiated. Senators should be aware that this bill will not in any way require hydronuclear tests. Instead, it will allow the President to approve them, individually. The President is responsible for the diplomatic negotiations on the comprehensive test ban, and will not approve any tests that will harm those negotiations.

Though we are not scientists, we can look at experience and understand why scientists believe that these tests are warranted. As our colleagues have stated, hundreds of tests have been conducted over the years. They conclude from this fact that we have done enough testing; we conclude the opposite because those tests often discovered problems. The Lawrence Livermore Laboratory, commenting on the reliability of U.S. nuclear weapons, has stated, "one-third of all of the weapon designs placed in the U.S. stockpile between 1958 and 1987 required and received post-deployment nuclear tests to resolve problems." In other words, after the warheads were put on the missiles and after the nuclear bombs were loaded on the planes, one-third of them needed further testing. In each case, the weapon was thought to be reliable and adequately tested when it entered the stockpile. The United States would never deploy a nuclear missile which it did not believe was safe or reliable, but it has often erred. Those mistakes have been caught and corrected with ongoing nuclear testing. A very concrete example of the use that could be made of hydronuclear testing would be to check the design safety of warheads after replacing their high explosives (HE) with insensitive high explosives (IHE). IHE warheads

are a relatively new development that make it less likely that they may accidentally go off on impact, such as when a nuclear bomber crashes. Only 25 percent of the U.S. nuclear arsenal has IHE; changing to 100 percent would result in much greater safety.

In a final note, some Senators may be under the false impression that this testing has been included as a "pork" project for the Nevada nuclear test site. We assure those Senators that most of the funds will not go to facilities in Nevada. Instead, laboratories in New Mexico and California will do most of the work. Those labs will receive this funding regardless of the outcome of this vote. Therefore, the issue is not at all "pork;" it is only whether this policy is advisable.

We think it is fully advisable to have testing of nuclear weapons, which are the most complex and most dangerous weapons in our arsenal. The military continually tests every other weapon it has to ensure its continued reliability. The same should be done for nuclear weapons. Small yield tests will not encourage proliferation. Making existing weapons safer does not threaten any other country and encourage it to acquire weapons. We are confident that proceeding with such tests will not harm proliferation efforts. For these reasons, we urge our colleagues to table the Exon amendment.

Those opposing the motion to table contended:

The provision for hydronuclear testing is absolutely unnecessary to ensure the safety and reliability of our nuclear arsenal, and may cause serious damage to our nonproliferation efforts. Our colleagues tell us that this bill will allow for tests of up to 4 pounds, but the vague wording of the bill will actually allow experiments with yields of up to 20 tons. We have really no reason for conducting these tests. Some nuclear experts argue for them, but others say there is really nothing for us left to learn, especially on high-yield explosions. This bill will invest substantial sums in building laboratories that will be able to simulate nuclear events using non-nuclear techniques. In other words, we will be able to conduct full testing of the safety and reliability of our nuclear arsenal without every causing a nuclear explosion. Our colleagues should be delighted by this fact, yet they are demanding the redundancy of nuclear testing.

If we claim that small yield explosions are not suitable for bomb development, we will have a very difficult time stopping non-nuclear countries from conducting similar experiments in their efforts to acquire nuclear capabilities. Clearly these experiments can contribute to proliferation, but if we insist on our right to conduct them, we cannot deny other countries that right. The best, clearest line to draw is one of zero nuclear testing. This technology is mature, and does not need to be advanced. The United States alone has set off 1,100 nuclear explosions in designing its weapons. We have all the data we could ever possibly need.

The Administration did not request this funding. The Defense Department had originally noted that it might have some limited use, but the higher levels of the Administration, worried about the effect it may have on the test ban negotiations as well as its efforts to stop proliferation, killed the idea. Now, it has reappeared in this bill. Our fear is that some individuals within the Pentagon have caught the ear of the Armed Services Committee and have prevailed upon it to overrule the negotiating concerns of the Administration. We cannot prove it, but we are certain that some military leaders are desirous of continuing with full-scale military testing.

The JASON group has consistently found that hydronuclear testing will provide a minimal level of useful new knowledge. However, it has also consistently pointed out that any minimal level of testing will justify testing by other countries. The United States may not learn much from a test, but an emerging nation will gain a wealth of new information from even a minor test.

We think that permission to allow hydronuclear tests is a huge step in the wrong direction. The moratorium on testing, the nonproliferation treaty, and the test ban treaty are all positive steps to returning the nuclear genie to its bottle. We will not retreat from these efforts. Accordingly, we strongly oppose the motion to table the Exon amendment.